

Claims

[c1] A device for dispensing wine from a wine bottle and for protecting unpoured wine from excessive oxidation by reducing ullage, comprising:

- a hollow interior of said bottle defining a wine chamber;
- a stopper removably mounted in a neck of said wine bottle;
- said stopper having a first, extended position relative to said neck of said wine bottle that enables pouring of wine from said bottle,
- said stopper having a second, retracted position relative to said neck of said wine bottle that prevents wine from being poured from said bottle;
- a first bore formed in said stopper, said first bore having a first diameter and extending longitudinally from a top wall of said stopper to a bottom wall of said stopper;
- a second bore formed in said stopper, said second bore having a second diameter greater than said first diameter;
- said second bore having a radially-extending first part and a longitudinally-extending second part;
- said radially-extending first part having a radially outermost end in open communication with a sidewall of said

stopper;

said longitudinally-extending second part having a lower end in open communication with said bottom wall of said stopper;

said radially outermost end being in open communication with ambient when said stopper is in said first, extended position;

said radially outermost end being closed by said neck of said wine bottle when said stopper is in said second, retracted position;

an inflatable bladder in fluid communication with said first bore;

inflating means for inflating said bladder;

said inflating means being connected to said top end of said first bore;

said inflatable bladder adapted to displace wine remaining in said bottle when said bladder is inflated;

whereby when said stopper is in said extended position, wine in said bottle is poured from said bottle through said second bore;

whereby when said stopper is in said extended position, said inflating means is operated to inflate said bladder so that wine in said wine chamber is displaced by said bladder until said wine displaces substantially all air from said wine chamber so that no oxygen is in contact with said wine;

whereby said stopper is placed into said retracted position after inflation of said bladder; and
whereby said inflating means is then disconnected from said first bore without affecting the level of wine in said wine chamber.

[c2] The device of claim 1, further comprising:
said means for inflating said bladder including a hand-held air pump that includes a neck having a free end that is removably placed into fluid communication with said first bore so that alternately squeezing and releasing said hand-held air pump causes air to flow through said neck, through said first bore, and into said bladder.

[c3] The device of claim 1, further comprising:
said means for inflating said bladder including a pump having a cylindrical main body, a plunger mounted for reciprocation with said main body, a handle secured to a trailing end of said plunger and an outlet nozzle in fluid communication with said top end of said first bore so that operation of said pump causes air to flow through said first bore into said bladder.

[c4] The device of claim 3, further comprising:
a restrictor for preventing separation of said stopper from said neck of said wine bottle;
said restrictor including a top wall having a central aper-

ture formed therein that slideably receives said cylindrical pump body of said pump;
a compression fitting that engages said bottle neck;
a plurality of straight interconnecting rods that are circumferentially spaced from one another and that interconnect said top wall and said compression fitting; and
a release handle that disengages said compression fitting from said bottle neck to enable removal of said restrictor from said bottle neck;
said stopper having a rim at an upper end thereof;
said top wall disposed in overlying relation to said rim;
said diameter of said central opening being less than a diameter of said rim so that when said restrictor is displaced downwardly, said stopper is displaced downwardly into its second, retracted, or closed configuration.

- [c5] A device for dispensing wine from a wine bottle and for protecting unpoured wine from excessive oxidation by reducing ullage, comprising:
a stopper removably mounted in a neck of said wine bottle;
said stopper having a top part and a base that depends from said top part, said base having a reduced diameter relative to a diameter of said top part;
a first bore formed in said stopper, said first bore having a first diameter and extending longitudinally from a top

wall of said stopper to a bottom wall of said stopper;
a cap removably mounted to said stopper, said cap being removed from said stopper when wine is being poured from said bottle and said cap closing said first bore when no wine is being poured from said bottle;
a second bore formed in said stopper, said second bore having a first, radially-extending part and a second, longitudinally-extending part;
said second bore having a second diameter less than said first diameter;
said second bore extending radially relative to a longitudinal axis of said stopper;
said second bore having a radially outer end in open communication with a sidewall of said stopper;
an inflatable bladder connected in fluid communication to said first bore, said inflatable bladder having an exterior surface that contacts wine inside said bottle;
said bladder being inflated by pumping air into said first bore after wine has been decanted from said bottle;
said bladder being inflated until wine remaining in said bottle rises through said first bore to a level spaced from said top wall of said stopper by a depth of said cap;
whereby installing said cap closes said first bore and prevents air from contacting said wine remaining in said bottle.

[c6] A device for dispensing wine from a wine bottle and for protecting unpoured wine from excessive oxidation by reducing ullage, comprising:

- a stopper removably mounted in a neck of said wine bottle;
- said stopper having a top part having a first diameter greater than an internal diameter of a neck of said wine bottle;
- said stopper having a base having a second diameter that is reduced with respect to said top part;
- said second diameter being slightly less than said internal diameter of said neck of said wine bottle so that said base is snugly received within said neck;
- sealing means disposed in circumscribing relation to said base to prevent wine in said bottle from flowing around said base;
- an internally threaded bore formed in said top part;
- a dispenser having a top part having a first diameter and a second part having a second diameter that is reduced with respect to said first diameter;
- said bottom part of said dispenser being externally threaded to screw-threadedly engage said internally threaded bore formed in said top part of said stopper;
- a wine duct formed in said stopper, said wine duct extending longitudinally from a top wall of said stopper to a bottom wall of said stopper, said wine duct being co-

extensive with said internally threaded bore formed in said top part of said stopper;

a pour spout extending radially outwardly from said dispenser in open fluid communication with said wine duct;

an air duct formed in said stopper, said air duct having a ninety degree bend formed therein and having a radially-extending part and a longitudinally-extending part that are in open fluid communication with one another but not in fluid communication with said wine duct;

said radially-extending part of said air duct being formed in said top part of said stopper and said longitudinally-extending part of said air duct extending from a radially-innermost end of said radially-extending part to said bottom wall of said stopper;

said radially outward end of said air duct being in open communication with an ambient environment;

an inflatable bladder having an exterior surface that contacts wine inside said bottle;

said inflatable bladder being connected to a bottom end of said longitudinally-extending part of said air duct;

inflating means adapted to be removably connected in fluid communication with said radially-extending part of said air duct so that operation of said inflating means inflates said bladder;

said bladder, when inflated, displacing wine remaining in said bottle so that the wine level within said bottle rises

to displace air from said wine chamber;
said air being vented from said wine chamber through
said wine duct;
whereby said wine is protected from oxidation when
substantially all air in said wine chamber is displaced
therefrom.

- [c7] A method for inserting an inflatable bladder into a bottle without touching the inflatable bladder, comprising the steps of:
- providing said stopper with a main body and a neck having a reduced diameter relative to said main body;
 - forming an air duct and a wine duct in said main body and in said neck;
 - sealing a mouth of said bladder to a mounting tube so that a first end of the mounting tube protrudes from the bladder and a second end of the mounting tube extends into the hollow interior of the bladder;
 - folding said bladder along a plurality of longitudinal folding lines that are parallel to one another and equidistantly spaced apart from one another to create an accordion fold so that a width of said bladder when accordion-folded is only slightly greater than a width of said mounting tube;
 - folding said bladder along a transverse folding line so that a bottom of said bladder is spaced slightly down-

wardly from a top of said bladder;
removing said longitudinally and transversely folded bladder from a wrapper by withdrawing the wrapper until said first end of the mounting tube protrudes from the wrapper;
positioning said stopper in an upright configuration and inserting said first end of said mounting tube into said air duct while holding said wrapper;
inverting said wrapper and said stopper;
further withdrawing said wrapper until said bottom end of said bladder protrudes from said wrapper;
inserting said bottom end of said bladder into a neck of a bottle while holding said wrapper;
further withdrawing said wrapper until said bladder is fully removed therefrom;
returning said stopper to said upright position and further inserting said bladder into said bottle until said bladder is fully received within said bottle;
inserting said neck of said stopper into sealing relation to said neck of said bottle;
whereby said stopper and bladder are fully inserted into said bottle without touching said bladder.